

NORTH ATLANTIC HURRICANES AND TROPICAL DISTURBANCES OF 1942

By HOWARD C. SUMNER

[Weather Bureau, Washington, January 1943]

All fully developed tropical disturbances of 1942, to the end of September, ran their full courses during the last two weeks of August. The first, a storm of near hurricane intensity, moved inland on the Texas coast during the morning of August 21. Nine days later, and before damage from the first storm could be repaired, a large and destructive hurricane crossed the coast just a hundred miles southwest of the first storm. A third disturbance, apparently of hurricane intensity, passed east of Bermuda some distance at sea during the night of August 25. Because of war restrictions on radio reports there is little available material on this storm.

September was unusually free from tropical disturbances. On two occasions, the 2d and 28th, disturbed conditions prevailed in the vicinity of Bermuda, but in both cases the intensity of the storm and the course followed are not definitely known. On the 12th conditions were disturbed near Nassau in the Bahama Islands, but no organized storm developed.

Tracks of these three September storms are not included on the chart as definitive information on intensity and movement is not available.

The hiatus in destructive tropical storms continued through October with three disturbances expending most of their energy over the ocean, and without any damaging winds being reported on shore.

During early November a severe hurricane described an unusual path from the Atlantic north of Cuba into the Caribbean Sea, and struck inland over British Honduras causing some loss of life and severe property damage in the area north of Belize.

A total of 11 tropical disturbances were observed during the 1942 season, four of which developed full or near hurricane winds. Three of the September storms, covered in the text, are not included in the accompanying table as data on their movement and intensity are lacking.

Tropical disturbance of August 18-22.—The disturbed conditions with squally weather and thunderstorms which prevailed along the Louisiana coast on the 19th, were doubtless associated with the northwestward movement of a wave formation which had been detected in the northwestern Caribbean on August 17. No definite characteristics of a tropical storm were observed until about midnight of the 20th. Moving west-northwestward toward the Texas coast, and giving few advance indications because of its small diameter, the disturbance passed inland over the Bolivar Peninsula near Gilchrist as a storm of near-hurricane intensity.

Curving northward, after crossing the coast, the storm center traversed Chambers, Liberty, San Jacinto and Polk Counties with gale winds prevalent along the north Texas coast as far south as Galveston. The storm quickly lost intensity as it moved inland toward Palestine, where a wind of only 22 miles per hour was reported.

The lowest pressure reported during the passage of the storm was 993.9 millibars (29.35 inches), at Gilchrist, and the maximum recorded wind velocity, for a 5-minute period, was 66 miles per hour (extreme 72) from the southeast reported from the Port Arthur Office at 9:20 a. m. (C. W. T.) August 21.

Tides were 3 to 7 feet above mean low water along the upper coast with the highest recorded at High Island about 30 miles northeast of Galveston. High tides caused considerable inundation of lowlands but, as much of the territory was uninhabited and had been under

water before, damage from this cause was confined mostly to small craft and pier installations.

Wind damage to property has been estimated at \$180,000, and to crops, principally rice, in excess of \$400,000, while high tides were responsible for damage amounting to about \$21,000. No loss of life or serious injury was reported.

Warnings were issued for this storm on the morning of the 19th, being lowered when winds became light on the Louisiana coast. Further warnings were issued on the 21st. Only coastal reports were available on the 20th, and the storm was so small and had so little effect on its surroundings that its true character was not seen until the winds increased materially with its arrival on the coast.

Tropical Disturbance of August 25-26.—A storm, apparently of hurricane intensity and with gales over a wide area, passed a short distance east of Bermuda during the night of August 25. No previous history is available on this storm. Bermuda reported a maximum wind velocity of 64 miles per hour at 3 a. m. (E. W. T.).

Hurricane of August 21-30.—The hurricane which swept inland over the Matagorda Bay area of Texas during the early morning hours of August 30, 1942, was one of the most severe storms on record for the Texas coast. Gales and hurricane winds prevailed over a path about 250 miles wide, with storm tides along the coast from the center northeastward to southwestern Louisiana.

The wave, from which this storm formed, passed over the Windward Islands near Santa Lucia on August 21, attended by heavy squalls but with no indications of organized circulation. Moving rapidly westward through the central Caribbean Sea, the wave formation passed south of Jamaica during the night of the 24th, where its progress became slower and the first indications of development were noted. It passed north of Swan Island as a moderate storm but with definite indications of rapidly increasing intensity, and crossed the tip of Yucatan Peninsula during the night of August 27, attended by full hurricane winds. Passing into the Gulf of Mexico, and moving northwestward in an almost straight line it reached the Texas coast, approximately two days later, as a large and severe storm attended by full hurricane winds over a path nearly 150 miles in width.

Seadrift, in Calhoun County, where a fairly complete calm occurred, reported the lowest pressure along the coast, 951.6 millibars (28.10 inches), August 30, at 4:55 a. m. The highest wind at Seadrift was estimated at 115 miles per hour. Hurricane winds accompanied the storm as far inland as Atascosa County. At San Antonio, 120 miles from the coast, the storm still retained great strength and caused considerable damage.

Tides were extremely high near the path of the center and high tides extended well to the right of the center. The highest reported was 14.7 feet at Matagorda, Tex., which placed the entire town under 4 to 8 feet of water.

Precipitation during the storm was generally light, and because of the rapid movement of the storm center it was of short duration. Contrary to the general rule for tropical storms of rapid movement, more rain fell on the left than on the right of the center. The maximum reported was 9.25 inches, on the coast about 25 miles to the left of the central track.

Estimates of damage from the hurricane have been placed at \$11,500,000 to property and \$15,000,000 to crops. The path of destruction covered all or portions of the follow-

ing counties: Matagorda, Calhoun, Aransas, Refugio, Jackson, Victoria, Goliad, De Witt, Karnes, Wilson, Atascosa, and Bexar. High tides and waves proved to be very destructive during this storm and by far the greatest value of warnings was in the saving of human life. In a storm which inundated entire communities and in certain localities left not a single residence undamaged the loss of only eight lives is remarkable. In the Galveston storm-warning district alone, some 50,000 soldiers and civilians were evacuated to higher ground and safer localities through the warnings.

Disturbance of September 15-22.—Between the 15th and 22d, a partially-developed wave moved westward through the Caribbean from the Windward Islands, near Santa Lucia, to British Honduras. At Swan Island, on the 20th, pressure fell to 1,002.4 millibars (29.60 inches) but no wind higher than Beaufort force 6 was reported in any observation. No advisories were issued on this storm.

Tropical disturbance of October 1-3.—On October 1 a circulation developed northeast of the Bahama Islands, and moved northeastward as a storm of wide extent and considerable intensity. It passed east of Bermuda during the night of October 2-3, attended by a large gale area, but with no available reports showing winds of hurricane force.

Disturbance, October 10-12.—This storm also formed northeast of the Bahamas, but moved north-northwestward to a position off the North Carolina Capes where its northward progress was blocked. It then curved inland over the northeastern North Carolina coast and gradually dissipated on the 12th. Heavy rainfall was recorded over northeastern North Carolina and to the northward, but no damaging winds were reported.

Slight Tropical Disturbance of October 13-18.—Forming in the northern Caribbean this disturbance moved over eastern Cuba on the 13th and, after crossing the Bahamas, curved northeastward over the Atlantic passing some distance west of Bermuda on the 17th. On the 18th it was absorbed into a stronger disturbance southeast of New England. This storm increased only slightly in intensity after leaving the Bahama region and, so far as is known, did not attain hurricane intensity.

Hurricane of November 5-11.—A disturbance developed over the extreme southeast Bahamas in a katallabaric wave that had moved up from the West Indies during November 3 and 4. The lowest pressure observed during its passage over the southern Bahamas was 997 millibars (29.44 inches), accompanied by a northeast wind force 9, at Georgetown, Exuma Island. No report of damage has

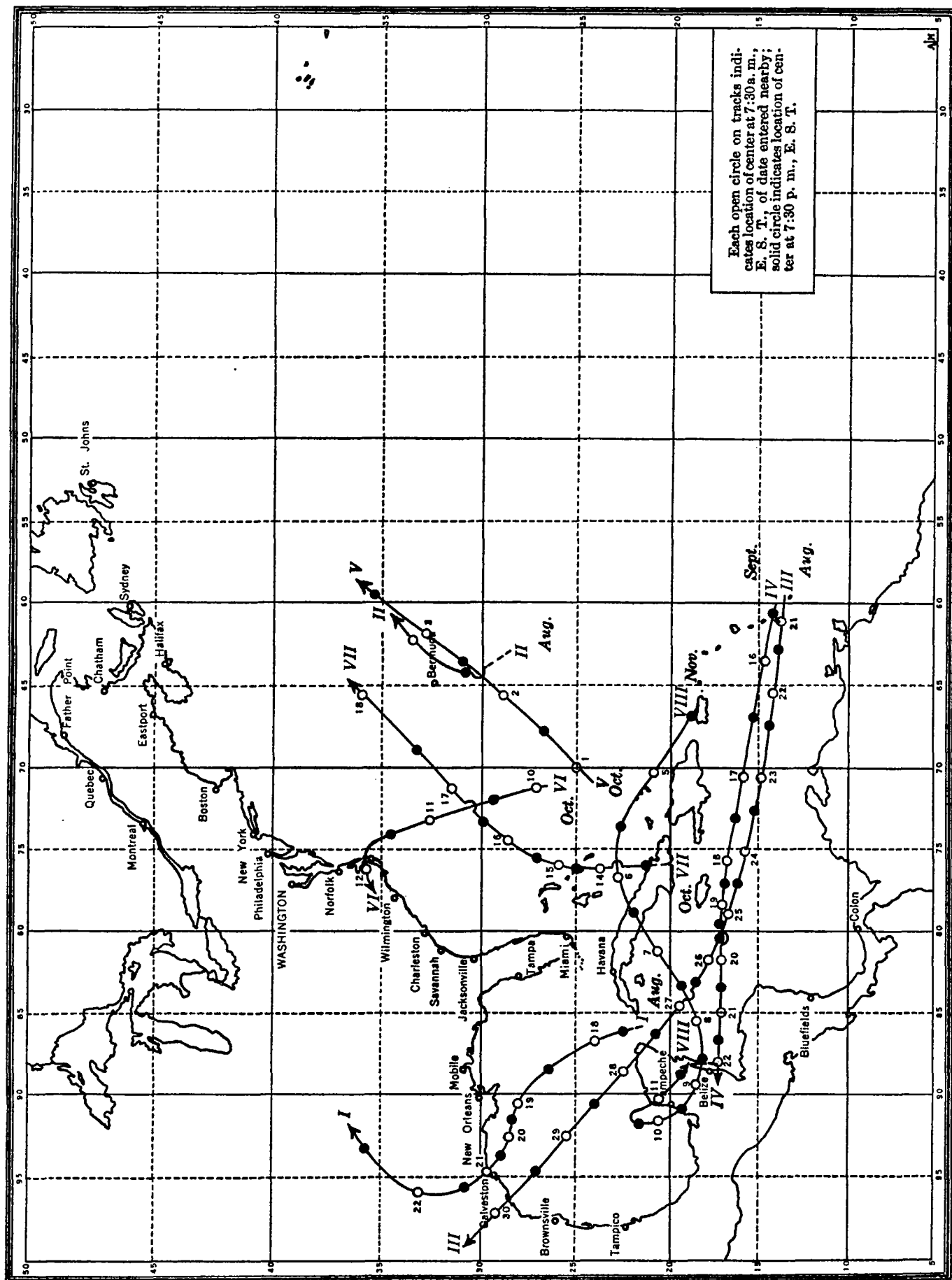
been received from the Bahamas. Blocked from entering the Gulf of Mexico by a ridge aloft, the disturbance turned southwestward and, increasing to hurricane or near hurricane force, crossed the north coast of Cuba a short distance southeast of Cay Paredon Grande where, in the 2 p. m. observation of the 6th, a wind of 70 miles per hour from the northeast, and pressure 994 millibars (29.35 inches), was reported. Camaguey, in the interior of south-central Cuba, recorded a low pressure of 999.7 millibars (29.52 inches) with gusts of wind up to 46 miles per hour from the south-southwest.

The disturbance weakened somewhat as it crossed the mountainous region of Cuba, but still retained an active cyclonic circulation as it passed into the Caribbean. Moving southwestward it regained hurricane intensity and, on approaching the Yucatan Peninsula, turned westward and struck inland over British Honduras between 6 and 8 p. m. of the 8th. The center emerged into the Bay of Campeche on the 9th, with lowest pressure at Campeche 998.9 millibars (29.50 inches) and a highest wind of force 9 from the east. There is no evidence that the disturbance regained hurricane intensity while in the Gulf of Mexico. On the 10th its northwest movement was blocked by high pressure at the surface and aloft and, being forced back southeastward, it reentered Yucatan and dissipated on the 11th in the interior of the peninsula.

The lowest pressure, throughout the history of the storm, was 991.5 millibars (29.28 inches) recorded at 6 and 7 p. m. of the 8th in the observatory at Belize, with winds ranging up to 54 miles per hour. North of Belize severe damage was reported from a coastal area 100 miles long and 40 to 50 miles deep. The center passed inland near or over the small village of San Pedro which was 90 percent destroyed. From Caye Corker came a report that a tidal wave had cut the island into three distinct parts carrying away everything in its path.

Damage throughout the affected area of British Honduras has been estimated at four million dollars. Of this total, one million is listed as destruction to private property, dwellings and public buildings, and the remaining three million as damage to cocoanut and other plantations and possible losses to the mahogany and chicle industries. Nine lives were lost in the northern district, but as many small fishing boats were dashed on shore or driven out to sea, the total loss of life is still unknown.

A synopsis of the hurricanes and tropical disturbances of 1942 is given in the following table. Their paths, numbered I to VIII chronologically, are shown on the accompanying chart.



Tracks of North Atlantic Hurricanes and Tropical Disturbances of 1942.

North Atlantic hurricanes and tropical disturbances of 1942

[Number of storm in table corresponds to number of path on accompanying chart]

Storm	Date	Place where first reported	Coast lines crossed	Maximum wind velocity reported	Lowest barometer reported	Place of dissipation	Intensity	Remarks
I.....	Aug. 18-22.	Yucatan Channel....	Texas.....	72 miles per hour SE., Port Arthur, Tex.	993.9 millibars (29.35 inches), Gilchrist, Tex.	East-Central Texas.	Near hurricane intensity.	No loss of life or serious injury reported; wind damage to property estimated \$180,000 to crops \$400,000; and additional \$21,000 from high tides.
II.....	Aug. 25-26.	Southeast of Bermuda.	None.....	64 miles per hour reported at Bermuda.	No data ¹	Northeast of Bermuda.	Likely of hurricane intensity.	Complete history lacking.
III.....	Aug. 21-30.	Windward Islands near Santa Lucia.	Yucatan and Texas.	115 miles per hour N. (estimated), Seadrift, Tex.	951.6 millibars (28.10 inches), Seadrift, Tex.	Southern Texas...	Full hurricane....	8 lives lost in Texas, damage estimated \$11,500,000 to property, \$15,000,000 to crops.
IV.....	Sept. 15-22.	Windward Islands near Santa Lucia.	British Honduras.	Beaufort force 6....	1,002.4 millibars (29.60 inches), Swan Island.	Central British Honduras.	Not of hurricane intensity.	No gales reported.
V.....	Oct. 1-3.	Northeast of Bahama Islands.	None.....	Attended by large area of gale winds.	No data ¹	Unknown.....	Unknown from available reports.	Attended by wide area of gale winds and dangerous squalls as it passed east of Bermuda.
VI.....	Oct. 10-12.	Northeast of Bahama Islands.	North Carolina.	Gale winds near center.	...do. ¹	Eastern North Carolina.	Probably not of hurricane intensity.	No damaging winds reported, heavy rainfall over northeastern North Carolina.
VII.....	Oct. 13-18.	Caribbean Sea south of eastern Cuba.	Cuba.....	No winds over strong (25-38 miles per hour).	...do. ¹	North Atlantic southeast of New England.	Not of hurricane intensity.	No reports of damaging winds.
VIII.....	Nov. 5-11.	Near Puerto Rico....	Cuba and British Honduras.	70 miles per hour N.E., Faredon Grande Cay, Cuba. ²	991.5 millibars (29.28 inches), Belize, British Honduras.	Interior of Yucatan Peninsula.	Full hurricane....	9 lives lost on the Yucatan Peninsula, estimated \$4,000,000 damage in British Honduras.

¹ Restriction of radio reports has resulted in a scarcity of material on storms that expended their greatest energy over water surfaces, without seriously affecting coastal areas.

² Higher wind velocities undoubtedly occurred in British Honduras, but records are not available.

METEOROLOGICAL AND CLIMATOLOGICAL DATA FOR APRIL 1943

[Climate and Crop Weather Division, J. B. KINCER, in charge]

AEROLOGICAL OBSERVATIONS

NOTICE.—Effective with the December 1942 issue, the publication of table 1 (RAOB summaries) was discontinued indefinitely.—
EDITOR.

TABLE 2.—Free-air resultant winds based on pilot-balloon observations made near 5 p. m. (75th meridian time) during April 1943. Directions given in degrees from north ($N=360^{\circ}$, $E=90^{\circ}$, $S=180^{\circ}$, $W=270^{\circ}$). Velocities in meters per second

Altitude (meters) m. s. l.	Abilene, Tex. (538 m.)			Albuquerque, N.Mex. (1,630 m.)			Atlanta, Ga. (299 m.)			Billings, Mont. (1,095 m.)			Bismarck, N. Dak. (512 m.)			Boise, Idaho (870 m.)			Browns- ville, Tex. (7 m.)			Buffalo, N. Y. (220 m.)			Burling- ton, Vt. (132 m.)			Charles- ton, S. C. (17 m.)			Cincin- nati, Ohio (152 m.)			Denver, Colo. (1,627 m.)			El Paso, Tex. (1,196 m.)		
	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity			
Surface.....	30	162	3.2	30	212	2.3	29	289	3.3	30	349	3.0	30	251	0.8	29	284	1.8	30	123	6.2	27	273	4.0	29	260	1.9	29	232	2.3	29	258	1.8	30	69	1.4	30	234	3.2
500.....	30	175	4.7	30	212	2.3	29	289	3.3	30	346	2.0	30	250	1.6	29	287	2.0	30	126	6.2	27	270	5.1	29	268	1.8	29	232	2.3	29	258	1.8	30	69	1.4	30	234	3.2
1,000.....	30	183	4.3	30	212	2.3	29	289	3.3	30	346	2.0	30	250	1.6	29	287	2.0	30	126	6.2	27	270	5.1	29	268	1.8	29	232	2.3	29	258	1.8	30	69	1.4	30	234	3.2
1,500.....	30	206	4.0	30	216	2.9	29	278	2.7	30	346	2.0	30	250	1.6	29	287	2.0	30	126	6.2	27	270	5.1	29	268	1.8	29	232	2.3	29	258	1.8	30	69	1.4	30	234	3.2
2,000.....	29	226	5.9	30	216	2.9	29	278	2.7	30	346	2.0	30	250	1.6	29	287	2.0	30	126	6.2	27	270	5.1	29	268	1.8	29	232	2.3	29	258	1.8	30	69	1.4	30	234	3.2
2,500.....	29	226	5.9	30	216	2.9	29	278	2.7	30	346	2.0	30	250	1.6	29	287	2.0	30	126	6.2	27	270	5.1	29	268	1.8	29	232	2.3	29	258	1.8	30	69	1.4	30	234	3.2
3,000.....	26	243	6.2	30	239	4.6	29	285	12.2	26	267	5.8	22	311	6.6	25	236	5.4	17	233	3.3	27	283	10.5	26	289	13.1	29	251	4.6	28	262	9.9	30	70	7.8	30	219	2.6
4,000.....	27	258	7.2	29	257	5.9	19	304	14.4	22	274	9.7	19	307	10.3	23	243	7.4	17	233	3.3	27	283	10.5	26	289	13.1	29	251	4.6	28	262	9.9	30	70	7.8	30	219	2.6
5,000.....	24	269	9.7	28	253	7.5	19	304	15.4	17	279	11.9	18	305	13.1	19	238	7.5	16	272	7.6	27	283	10.5	26	289	13.1	29	251	4.6	28	262	9.9	30	70	7.8	30	219	2.6
6,000.....	22	275	11.5	26	257	9.0	18	302	17.0	14	282	14.3	16	307	17.4	18	256	7.0	13	271	10.4	27	283	10.5	26	289	13.1	29	251	4.6	28	262	9.9	30	70	7.8	30	219	2.6
8,000.....	17	291	12.1	18	270	10.1	18	302	17.0	14	282	14.3	16	307	17.4	18	256	7.0	13	271	10.4	27	283	10.5	26	289	13.1	29	251	4.6	28	262	9.9	30	70	7.8	30	219	2.6
10,000.....	14	302	14.5	15	270	10.1	18	302	17.0	14	282	14.3	16	307	17.4	18	256	7.0	13	271	10.4	27	283	10.5	26	289	13.1	29	251	4.6	28	262	9.9	30	70	7.8	30	219	2.6
12,000.....	10	333	16.0	10	283	12.3	29	289	3.3	30	349	3.0	30	251	0.8	29	284	1.8	30	123	6.2	27	273	4.0	29	260	1.9	29	232	2.3	29	258	1.8	30	69	1.4	30	234	3.2